

Remarks

Reconsideration and allowance of the subject patent application are respectfully requested.

Claims 18, 21-23 and 25 were rejected under 35 U.S.C. Section 103(a) as allegedly being "obvious" over Hiroshi (JP 10-20769) in view of Garner (U.S. Patent No. 5,496,174). While not acquiescing in this rejection, claims 18 and 21-25 have been canceled without prejudice or disclaimer and new claims 26-40 have been added. The applied documents are discussed below with reference to the new claims.

In the information input/output device for visually impaired users of independent claim 26, a braille output unit which outputs a plurality of braille patterns also functions as a push part of an input device which is operated by a pushing operation. Furthermore, a recognition section recognizes that an operation toward a character information indicated by the braille patterns which are output by the braille output unit is input when the braille output unit is pushed within a specified period of time after the character information is indicated by the braille patterns, and also recognizes that an operation toward the character information indicated by the braille patterns which are output by the braille output unit is not input when the braille output unit is not pushed within the specified period of time after the character information is indicated by the braille patterns.

According to the information input/output device for visually impaired users of claim 26, another input device such as a push button and the like need not be provided since the braille output unit functions as the push part of the input device. Therefore, the user can easily input (or not input) responses (e.g., YES/NO) to the character information which is indicated by the braille patterns simply by pushing the braille output unit without searching for another input device. Furthermore, the user can easily respond to the character information which is indicated by the braille patterns merely by the user's touch and pushing (or not pushing) the braille output unit within the specified period of time after the character information is indicated by the braille patterns.

In contrast, in JP 10-20769, any nominal recognition section only controls the position of the braille patterns in conformity with the position of the finger of the user on the braille output unit. Furthermore, a touch sense display 13 having dot pins 12 only functions as a braille output

unit and does not function as the push part of the input device. Therefore, in JP 10-20769, another input device such as a push button must be provided in addition to the braille output unit. In other words, in JP 10-20769, the operation toward the character information which is indicated by the braille patterns cannot be transmitted through the braille output unit. While JP 10-20769 discloses various input devices (*e.g.*, keys 14 and 15 in the Figure 1 embodiment; keys 44, 45 and 46 in the Figure 4 embodiment; etc.), there is no disclosure of providing any of these input devices with a braille output device. The office action references paragraph 23 of JP 10-20769 in connection with a push-button. However, this paragraph simply refers to "press maintenance of a fingertip", but does not mention a push button.

Moreover, in JP 10-20769, intervals of output of the braille patterns can be controlled for the inexperienced users. However, the recognition means does not recognize whether the response to the character information which is indicated by the braille patterns is input or not within a specified period of time after the character information is indicated. Therefore, any nominal recognition section of JP 10-20769 cannot recognize the operation toward the character information which is indicated by the braille patterns based on the time after the character information is indicated. As a result, in JP 10-20769, when the user does not operate another input device, any nominal recognition section of JP 10-20769 cannot recognize the decision (*e.g.*, input/not input) of the user to the character information which is indicated by the braille patterns, and further operation cannot be continued. The timer setup mentioned in paragraph 26 of JP 10-20769 relates to timing at which braille patterns are output and has nothing to do with whether an input is recognized within a predetermined period of time after a pattern is output.

Garner does not remedy the noted deficiencies of JP 10-20769 because Garner does not disclose, among other things, an operation toward a character information which is indicated by a braille patterns which are output by a braille output unit. Consequently, even if proper motivation could be identified for the proposed combination of JP 10-20769 and Garner and these documents were in fact combined, the subject matter of claim 26 and its dependent claims would not result.

New independent claim 34 is directed to an information input/output device for visually impaired users comprising a user-actuatable push part comprising a braille output surface for outputting braille characters, the braille output surface comprising openings through which

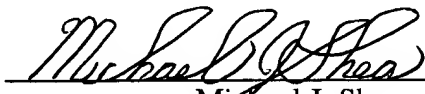
selectively actuated pins extend to form the braille characters. A processing system controls the outputting of the braille characters on the braille output surface and processes user response to the outputting of the braille characters. The processing system recognizes that a response to the braille characters output by the braille output surface is input when the push part is actuated by a pushing operation within a specified period of time after the braille characters are output by the braille output surface and the processing system recognizing that no response to the braille characters output by the braille output surface is input when the push part is not actuated by a pushing operation within the specified period of time after the braille characters are output by the braille output surface. Neither JP 10-20769 nor Garner discloses or suggests a push part including a braille output surface as claimed, nor do these documents disclose or suggest recognizing/not recognizing that a response to the braille characters is input based on pushing/not pushing the push part within a specified period of time. For at least these reasons, Applicant submits that claim 34 and its dependent claims are allowable over JP 10-20769 and Garner.

The admitted prior art is referenced in connection with now-canceled claim 24. However, the admitted prior art does not cure the deficiencies of JP 10-20769 and Garner in connection with claims 25-40.

The pending claims are believed to be allowable and favorable office action is respectfully requested.

Respectfully submitted,

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